<u>REMARKS</u>

Applicants respectfully request the Examiner's reconsideration of the present application. No claims have been cancelled. Claims 3-5 have been amended. No claims have been added. Therefore, claims 3-5 and 8-14 are presented for examination.

Information Disclosure Statement

The Examiner has indicated that the Khuwaja et al. reference cited by applicant was not considered since the date of publication is missing. Applicant is submitting an IDS herewith citing the Khuwaja et al. reference, along with its date of publication. Applicant respectfully requests the Examiner to consider the reference as to its merits and mark it as being so considered.

Rejections Under 35 U.S.C. §103(a)

Samarasekera in view of Wu

Claims 3-5 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Samarasekera et al., U.S. Patent No. 5,960,055 ("Samarasekera") in view of Wu "DART1-A Possible Ideal Building Block of Memory Systems" ("Wu"). Applicant respectfully submits that the present claims are patentable over the combination of Samarasekera and Wu.

Samarasekera discloses image reconstruction using directly developed Radon derivative data. Wu discloses a bi-directional associative memory dual adaptive resonance theory (DART1) network consisting of two simplified adaptive resonance theory (SART1) networks. The two SART1 networks share a category layer (called a conceptual layer), as illustrated in Figure 1 of Wu.

Independent claims 3, 4, 5 and 8, as amended, are directed to training a first neural network using a second neural network and include the limitation of training a multilayer perceptron of the first neural network using weights, wherein the first neural network and the second neural network are dual to each other. Applicant respectfully reminds the Examiner that the claims must be interpreted consistent with the

specification. (MPEP §2173.05(a)). As used in Applicant's specification, the claim term "dual" refers to a network from which afferent inputs are received through an afferent link 103. (Specification, p. 10, line 16; Figure 1).

The Examiner has admitted that Samarasekera does not teach or suggest this limitation. Applicant respectfully submits that Wu also does not teach or suggest networks that are dual to each other as Applicant has described in the Specification. Wu discloses that two SART1 networks share a conceptual layer. However, Wu does not teach or suggest that one of the SART1 networks trains the other, nor does Wu teach or suggest that the two SART1 networks are dual to each other. Therefore, Wu's SART1 networks may not be interpreted as being equivalent to Applicant's claimed neural networks. Furthermore, Applicant's claimed limitation recites training a multilayer perceptron of the first neural network. Wu does not teach or suggest that either of the two SART1 networks include a multilayer perceptron (MLP). In fact, Wu explicitly teaches away from the use of MLPs by citing several disadvantages of MLPs. (Wu, p. 1087, lines 7-13). Therefore, neither Samarasekera, Wu, nor the combination teach or suggest Applicant's claimed limitations. Accordingly, Applicant respectfully submits that independent claims 3, 4, 5 and 8 are not rendered obvious by the combination of Samarasekera and Wu, and requests the withdrawal of the rejection of the claims under 35 U.S.C. §103(a).

Samarasekera in view of Wu and Tam

Claims 9 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Samarasekera in view of Wu and further in view of Tam, U.S. Patent No. 5,446,776 ("Tam"). Applicant respectfully submits that the present claims are patentable over the combination of Samarasekera, Wu and Tam.

Tam discloses calculating and storing Radon derivative data for various planes in a computerized tomography system. Claims 9 and 12 depend from independent claims 3 and 5, respectively. As discussed above, the combination of Samarasekera and Wu does not teach or suggest the limitations of independent claims 3 and 5. Applicant respectfully submits that Tam also does not teach or suggest the claimed limitations that

are missing from the combination of Samarasekera and Wu. Tam is directed to calculating and storing Radon derivative data for tomographic planes, and does not teach or suggest that a first neural network and a second neural network are dual to each other, as claimed. Therefore, neither Samarasekera, Wu, Tam, nor the combination teaches or suggests the claimed limitations. Accordingly, claims 9 and 12 are patentable over the combination, and Applicant respectfully requests withdrawal of the rejection of the claims under 35 U.S.C. §103(a).

Samarasekera, Wu in view of Elsherif

Claims 10 and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Samarasekera in view of Wu and further in view of Elsherif et al., "On Modifying the Weights in a Modular Recurrent Connectionist System" ("Elsherif"). Applicant respectfully submits that the present claims are patentable over the combination of Samarasekera, Wu and Elsherif.

Elsherif discloses a modular system to classify binary and continuous patterns. The system consists of one feed-forward Back-Propogation network and two Self-Organization Map networks. Claims 10 and 13 depend from independent claims 3 and 5, respectively. As discussed above, the combination of Samarasekera and Wu does not teach or suggest the limitations of independent claims 3 and 5. Applicant respectfully submits that Elsherif also does not teach or suggest the claimed limitations that are missing from the combination of Samarasekera and Wu. Elsherif is directed to classifying binary and continuous patterns, and does not teach or suggest that a first neural network and a second neural network are dual to each other, as claimed. Therefore, neither Samarasekera, Wu, Elsherif, nor the combination teaches or suggests the claimed limitations. Accordingly, claims 10 and 13 are patentable over the combination, and Applicant respectfully requests withdrawal of the rejection of the claims under 35 U.S.C. §103(a).

Samarasekera in view of Wu, Elsherif and Tam

Claims 11 and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Samarasekera in view of Wu, Elsherif and Tam. Applicant respectfully submits that the present claims are patentable over the combination of Samarasekera, Wu, Elsherif and Tam.

Claims 11 and 14 depend from independent claims 3 and 5, respectively. As discussed above, the combination of Samarasekera, Wu and Elsherif does not teach or suggest the limitations of independent claims 3 and 5. Applicant respectfully submits that Tam also does not teach or suggest the claimed limitations that are missing from the combination of Samarasekera, Wu and Elsherif, as discussed above. Therefore, neither Samarasekera, Wu, Elsherif, Tam, nor the combination teaches or suggests the claimed limitations. Accordingly, claims 11 and 14 are patentable over the combination, and Applicant respectfully requests withdrawal of the rejection of the claims under 35 U.S.C. §103(a).

Conclusion

Applicant respectfully submits that in view of the amendments and discussion set forth herein, the applicable rejections have been overcome and the pending claims are in condition for allowance.

If the Examiner determines the prompt allowance of the claims could be facilitated by a telephone conference, the Examiner is invited to contact Scott Heileson at (408) 720-8300.
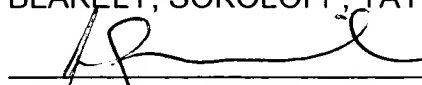
Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due.

Respectfully submitted,

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